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Challenging Students' Thinking With Bloom's Taxonomy

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Challenging Students' Thinking With Bloom's *Taxonomy*

Objective: To challenge higher order thinking skills based on the framework of Bloom's *Taxonomy*.

Course: Basic

An important learning opportunity occurs during the question and answer (Q & A) session following student speeches. Not only do students benefit from the information conveyed in these speeches, but students also benefit from the cognitive stimulation the opportunity affords. Often, however, it seems the Q and A session falls short of these lofty aspirations. Audience members may ask painfully obvious questions; speakers may respond to questions in perfunctory manner, relieved that the "hard" part or the "real" part of their responsibility (i.e., giving the speech) is completed. However, the Q and A session is a time when learning can occur in that speakers can reinforce their expertise and credibility and audience members have the opportunity to present themselves as thoughtful and competent communicators. The result can be a stimulating discussion built on knowledge presented in the speech with additional opportunities to challenge, discuss, and enhance both speakers' and audience members' cognitive processes.

The purpose of this activity is to propose a means by which students can achieve the full learning potential offered in the Q and A session following speeches by organizing their thinking and their questions within the framework of Bloom's *Taxonomy of Educational Objectives* (Bloom, Engelhart, Furst, Hill, and Krathwohl, 1956). Besides providing guidance to enhance the Q and A sessions following public speeches, Bloom's *Taxonomy* presents a criteria for identifying the current status of student thinking in comparison to a

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desired cognitive goal, allows both instructors and students to assess their own thinking, and consider approaches to enhance their thinking abilities. To realize these results, however, students must understand what is required or expected of them at each level of the *Taxonomy*.

The Activity

For many students, Bloom's *Taxonomy* represents a change in the thinking process. To assist students in learning this new process, the topic should be introduced as early as possible in the semester with a copy of the *Taxonomy* in the student syllabus. However, simply reading the *Taxonomy* is not sufficient. Students must also have the opportunity to participate and practice managing knowledge at the various levels of the *Taxonomy*. To facilitate learning and practicing the *Taxonomy*, this activity is conducted the second day of the class.

To provide the environment for understanding and using the *Taxonomy* with this activity takes approximately 45 minutes. Students are organized in dyads or groups of 3-5 members. Each dyad or group is given a "goodie" bag filled with a variety of objects (e.g., a toy, a piece of jewelry, a mitten, a pen, etc.). Minimally, there should be one object in each bag for each person. (These objects can be collected at garage sales or result from household cleaning projects.) Although somewhat time consuming to initially assemble, the "goodie bags" can be used for other learning activities so it is worthwhile to have them on hand.

The *Taxonomy* is composed of six increasingly demanding classifications or levels by which to manage or organize information or knowledge. The six levels are Knowledge, Comprehension, Application, Analysis, Synthesis, and Evaluation. At each level, students complete three tasks: (1) they use objects from their goodie bags as a means of identifying and understanding the increasingly more complex demands of each classification as well as to experience the manner in which each classification builds upon the previous level, (2) they are asked to describe what they did at that level and how it differs from the task of the previous level, and (3) they write a question that would require a response corresponding to that particular level. The manner in which the instructor conducts the activity is illustrated for Knowledge.

1. The *Knowledge* level requires identification of an item, concept, or idea through recall. For example, the instructor would ask students to: (1) "Work individually. Select any object from your goodie bag and identify the object by its name to your peer(s);" (2) "Describe the task you were asked to complete with the object;" and (3) "Write a question about any topic that would require a response at the Knowledge level."

2. The *Comprehension* level builds on Knowledge by demonstrating understanding of a term, concept, or theory by giving an example, paraphrasing, or creating an analogy or metaphor. Using the same object, students are told to devise a way to explain their object to someone who has never seen it before, using different terms than they did when naming the object at the Knowledge level.

3. The *Application* level is associated with practical use or problem solving. Again, using the same object, students are asked how they could put the object to use or given a hypothetical problem, how the object could be used to solve this problem. For example, "if you were locked out of your car, how would you use this object to gain entrance?"

4. The *Analysis* level focuses on the relationships of variables to each other and to a whole. This level requires designating degrees of importance and identifying causes and effects. To illustrate Analysis, students are asked to consider which part of their object was most beneficial in solving the hypothetical problem posed at the Application level.

5. *Synthesis* level requires integration resulting in a form heretofore unknown. Students are asked to use all of the objects to create and identify a new object.

6. The *Evaluation* level appraises value or quality against either implicit or explicit criteria or standards. Using the created object from the Synthesis level, students assess their object using either an instructor designated criteria or criteria they have generated themselves.

The purpose of this activity is to prepare students to display higher order thinking skills when participating in the Q and A session following speeches. Implementation of the *Taxonomy* for this particular use could proceed in a variety of ways. For example, if students are organized into speaking groups, when one group speaks, other groups ask questions at assigned levels. An incremental approach could also work. For instance, for

the first speech, all questions would be asked at the lower classifications of the *Taxonomy;* for the second (and subsequent) speech, the focus of questions would move to the higher levels of the *Taxonomy*.

Debriefing

Skill in thinking at the various levels of the *Taxonomy* is enhanced through practice and reflection. These questions are suggested for reflection and debriefing of the activity:

1.Were all of the questions developed at the indicated levels of the hierarchy? Why or why not? At what levels did you experience challenges?

2.Which questions were most beneficial in extracting additional information? Which questions were most beneficial in learning more from a speaker?

3.How could these questions provide a speaker with additional feedback regarding content that might have been included in or excluded from the speech?

4.How can developing questions at various levels of the hierarchy be beneficial to the learning skills of audience members as they develop their own speeches?

5.How would speakers' responses to questions influence the audience perception of speaker credibility? How would speakers' responses to questions influence the audience willingness to accept the message?

Appraisal

Focusing on all the classifications of Bloom's *Taxonomy* can challenge both instructors and students. For the instructor, the major challenge may be the classroom organization required to ensure that audience members have the opportunity and the responsibility to think at various levels of the *Taxonomy*. For students, the major challenge may be formatting questions to reflect a specific level of the *Taxonomy*.

Generally, students respond favorably to both this activity and to applications of the *Taxonomy*. While experiencing the activity, students should be encouraged to be creative or inventive as preparation for phrasing questions in response to abstract speech topics. Also, students have commented that a familiarity with the *Taxonomy* assists them in identifying expectations inherent in class discussions and exams and is helpful to them in organizing their responses. An unexpected and interesting outcome is that students have commented on the extent to which they are able to transfer their knowledge of Bloom's *Taxonomy* to their other classes. They recognize the difficulty level of exam and discussion questions encountered in other classes and often become critical consumers of the education they are receiving in those classes as well as advancing their critical thinking regarding the course content.

References and Suggested Readings

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